

**REMARKS**

Entry of the foregoing, reexamination and further and favorable consideration of the subject application in light of the following remarks, pursuant to and consistent with 37 C.F.R. § 1.112, are respectfully requested.

By the foregoing amendment, the specification has been amended to insert the priority information in the first paragraph of the specification. Additionally, claims 1-6 have been canceled without prejudice or disclaimer to the subject matter recited therein. Also, claims 7 and 20-21 have been amended. No new matter has been added by way of the subject amendments to the specification and claims.

**I. Priority**

On page 2 of the Office Action, the Examiner has required the application to be amended, on the first page of the specification, to include reference to the fact that the subject application is a National Stage filing. Applicants note that this amendment should not be necessary since reference to the present application being a National Stage Application of PCT/KR04/02757 is set forth in the application data sheet that was submitted with the application when filed on April 28, 2006. *See* M.P.E.P. § 201.11 ("The later-filed application must contain a reference to the prior-filed application in the first sentence(s) of the specification or in an application data sheet, for a benefit claim under 35 U.S.C. 120, 121, or 365(c) . . ."). However, for the Examiner's convenience, applicants have amended the specification to add the priority information indicated on the application data sheet into the specification as well.

**II. Rejections Under 35 U.S.C. § 112**

Claims 1-7 and 20-21 have been rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner has indicated

that the phrase “substantially equivalent physiological activity” is unclear. OFFICE ACTION at 2-3.

Claims 1-3, 5-7, and 20-21 have also been rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In this case, the Examiner has rejected the claims as being indefinite since the amino acid sequence which is being referred to in is purportedly unknown. OFFICE ACTION at 3.

Both of these rejections are respectfully traversed.

As noted above, claims 1-6 have been canceled without prejudice or disclaimer and thus these rejections are rendered moot as to those claims. With regard to pending claims 7 and 20-21, independent claim 7 has been amended to delete the phrase “substantially equivalent physiological activity” and to recite that “the EC SOD protein consists of an amino acid sequence of SEQ ID NO:11.” These amendments were made in order to advance prosecution in the present application and not to acquiesce to the Examiner’s rejections.

In view of the above, the Examiner is respectfully requested to withdraw both rejections under 35 U.S.C. § 112, second paragraph.

### **III. Rejections Under 35 U.S.C. §§ 102 & 103**

#### **A. Marklund et al. Alone**

The Examiner has rejected claims 1-3, 5-7, and 20-21 under 35 U.S.C. § 102(b) as purportedly being anticipated by Marklund et al. (U.S. Patent No. 5,366,729) or, in the alternative, under 35 U.S.C. § 103(a) as being obvious over said patent. OFFICE ACTION at 3-4.

Claims 5 and 7 have also been rejected under 35 U.S.C. § 103(a) as purportedly being unpatentable over Marklund et al. (U.S. Patent No. 5,366,729). OFFICE ACTION at 4-5.

Both of these rejections are respectfully traversed.

The Marklund et al. patent relates to variants of EC SOD, methods of producing the variants and the use for the purpose of therapeutic treatment. For therapeutic treatment, the Marklund et al. patent discloses that the variant of EC SOD could be used for preventing or treating a disorder at least in part caused by or exacerbated by the presence or formation of superoxide radicals, wherein the disorder is damage caused by ischemia followed by reperfusion, or in connection with the transplantation of organs, or in connection with heart surgery (see claim 14 of the Marklund et al. patent).

However, the skin diseases of the present invention refer to the diseases caused by reactive oxygen species, the overgrowth of epidermal cells, the expression of MMP(matrix metalloproteinase), or degranulation of mast cells. In particular, the examples of the skin diseases of the present invention include skin cancer, pigmentation disease, photoaging, chronoaging, dermatitis, atopy, contact allergy, epidermal hyperplasia, and urticaria (see page 12, lines 1-6 of the present invention).

Thus, the skin diseases of the present invention do not relate to damages caused by ischemia followed by reperfusion, or in connection with the transplantation of organs, or in connection with heart surgery.

The Examiner also mentioned that encapsulated EC SOD and derivatives thereof could be used for the prevention and treatment of dermatitis (column 25 of the Marklund et al. patent). However, the disclosure of the Marklund et al. patent is for CuZn SOD not EC SOD.

Therefore, it is clear from the above discussion, that the Marklund et al. patent fails to teach or suggest the invention of the currently pending claims. As such, the examiner is respectfully requested to withdraw both of the rejections over the Marklund et al. patent.

**A. Marklund et al. In Combination With Trova et al.**

Claim 4 has been rejected under 35 U.S.C. § 103(a) as purportedly being unpatentable over Marklund et al. (U.S. Patent No. 5,366,729) in view of Trova et al. (International Patent Application Publication No. WO 96/40223). OFFICE ACTION at 5-6. This rejection is respectfully traversed.

The Marklund et al. patent, as discussed above, fails to teach or suggest the invention set forth in the currently pending claims and the Trova et al. patent fails to remedy these serious deficiencies. The Trova et al. patent simply discloses the sequence of EC SOD, not the use of EC SOD of the present invention.

Since applicants' claimed use of EC SOD for preventing or treating skin diseases of the present invention is neither taught nor suggested by the combination of the Marklund et al. and Trova et al. patents, the Examiner is respectfully requested to with this rejection.

**B. Chuong et al.**

Lastly, claims 1-7 and 20-21 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Choung et al. (Journal of Investigative-Dermatology, 122(3), p. A143, 2004, abstract) in view of current skin disease treatment methods and in view of current skin disease treatment methods. OFFICE ACTION at 6. This rejection is respectfully traversed.

The present application is a national stage application, filed under 35 U.S.C. § 371, of PCT/KR2004/002757, filed on October 29, 2004, which claims priority to Korean Patent Application No. KR 10-2003-0076629, filed October 31, 2003. The Chuong et al. reference is dated 2004, which is after applicants' foreign priority date. In order to perfect applicants' foreign priority claim, applicants submit herewith an English language translation of the Korean priority document - KR 10-2003-0076629. Since applicants are entitled to their claimed foreign priority date, the Chuong et al. reference is not prior art.

Accordingly, withdrawal of this rejection under 35 U.S.C. § 103(a) is respectfully requested.

**CONCLUSION**

In view of the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order. Such action is earnestly solicited.

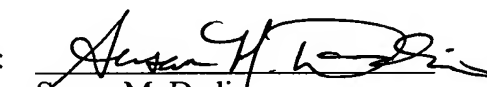
In the event that there are any questions related to this Amendment and Reply, or the application in general, it would be appreciated if the Examiner would telephone the undersigned attorney at the below-listed telephone number concerning such questions so that prosecution of this application may be expedited.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

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